

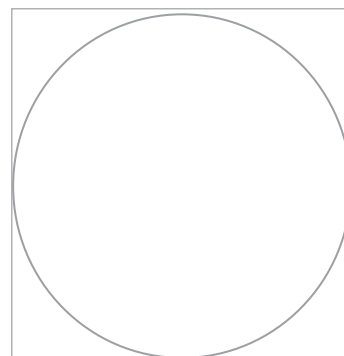
## OFFICIAL ABSTRACT and CERTIFICATION

Category  
Pick one only —  
mark an “X” in box  
at right

- Animal Sciences
- Behavioral & Social Sciences
- Biochemistry
- Biomedical & Health Sciences
- Biomedical Engineering
- Cellular & Molecular Biology
- Chemistry
- Computational Biology & Bioinformatics
- Earth & Environmental Sciences
- Embedded Systems
- Energy: Sustainable Materials and Design
- Engineering Mechanics
- Environmental Engineering
- Materials Science
- Mathematics
- Microbiology
- Physics & Astronomy
- Plant Sciences
- Robotics & Intelligent Machines
- Systems Software
- Translational Medical Sciences

1. As a part of this research project, the student directly handled, manipulated, or interacted with (check ALL that apply):
  - human participants
  - potentially hazardous biological agents
  - vertebrate animals
  - microorganisms
  - rDNA
  - tissue
2. I/we worked or used equipment in a regulated research institution or industrial setting:  Yes  No
3. This project is a continuation of previous research.  Yes  No
4. My display board includes non-published photographs/visual depictions of humans (other than myself):  Yes  No
5. This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year's work only  Yes  No
6. I/we hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work.  Yes  No

*This stamp or embossed seal attests that this project is in compliance with all federal and state laws and regulations and that all appropriate reviews and approvals have been obtained including the final clearance by the Scientific Review Committee.*



# Research Plan/Project Summary Instructions

A complete Research Plan/Project Summary is required for ALL projects and must accompany Student Checklist (1A).

- All projects must have a Research Plan/Project Summary
  - a. The Research Plan is to be written prior to experimentation following the instructions below to detail the rationale, research question(s), methodology, and risk assessment of the proposed research.
  - b. If changes are made during the research, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals. If no additional approvals are required, this addendum serves as a project summary to explain research that was conducted.
  - c. If no changes are made from the original research plan, no project summary is required.
    - Some studies, such as an engineering design or mathematics projects, will be less detailed in the initial project plan and will change through the course of research. If such changes occur, a project summary that explains what was done is required and can be appended to the original research plan.
    - The Research Plan/Project Summary should include the following:
      - a. **RATIONALE:** Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.
      - b. **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:** How is this based on the rationale described above?
      - c. Describe the following in detail:
        - **Procedures:** Detail all procedures and experimental design including methods for data collection, and when applicable, the source of data used. Describe only your project. Do not include work done by mentor or others.
        - **Risk and Safety:** Identify any potential risks and safety precautions needed.
        - **Data Analysis:** Describe the procedures you will use to analyze the data/results.
    - d. **BIBLIOGRAPHY:** List major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.

Items 1–4 below are subject-specific guidelines for additional items to be included in your research plan/project summary as applicable.

## 1. Human participants research:

- a. **Participants:** Describe age range, gender, racial/ethnic composition of participants. Identify vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
- b. **Recruitment:** Where will you find your participants? How will they be invited to participate?
- c. **Methods:** What will participants be asked to do? Will you use any surveys, questionnaires or tests? If yes and not your own, how did you obtain? Did it require permissions? If so, explain. What is the frequency and length of time involved for each subject?
- d. **Risk Assessment:** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize risks? List any benefits to society or participants.
- e. **Protection of Privacy:** Will identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential/anonymous? If anonymous, describe how the data will be collected. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will data be stored? Who will have access to the data? What will you do with the data after the study?
- f. **Informed Consent Process:** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

## 2. Vertebrate animal research:

- a. Discuss potential ALTERNATIVES to vertebrate animal use and present justification for use of vertebrates.
- b. Explain potential impact or contribution of this research.
- c. Detail all procedures to be used, including methods used to minimize potential discomfort, distress, pain and injury to the animals and detailed chemical concentrations and drug dosages.
- d. Detail animal numbers, species, strain, sex, age, source, etc., include justification of the numbers planned.
- e. Describe housing and oversight of daily care.
- f. Discuss disposition of the animals at the end of the study.

### • Potentially hazardous biological agents research:

- a. Give source of the organism and describe BSL assessment process and BSL determination.
- b. Detail safety precautions and discuss methods of disposal.

## 4. Hazardous chemicals, activities & devices:

- a. Describe Risk Assessment process, supervision, safety precautions and methods of disposal.
- b. Material Safety Data Sheets are not necessary to submit with paperwork.

# Approval Form (1B)

A completed form is required for each student, including all team members.

## 1. To Be Completed by Student and Parent

### a. Student Acknowledgment:

- I understand the risks and possible dangers to me of the proposed research plan.
- I have read the ISEF Rules and Guidelines and will adhere to all International Rules when conducting this research.
- I have read and will abide by the science fair ethics statement.

Student researchers are expected to maintain the highest standards of honesty and integrity. Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include but are not limited to plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and ISEF.

\_\_\_\_\_  
Student's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Acknowledged (mm/dd/yy)  
(Must be prior to experimentation.)

### b. Parent/Guardian Approval: I have read and understand the risks and possible dangers involved in the Research Plan/Project Summary. I consent to my child participating in this research.

\_\_\_\_\_  
Parent/Guardian's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Acknowledged (mm/dd/yy)  
(Must be prior to experimentation.)

## 2. To be completed by the local or affiliated Fair SRC

(Required for projects requiring prior SRC/IRB APPROVAL. Sign 2a or 2b as appropriate.)

### a. Required for projects that need prior SRC/IRB approval BEFORE experimentation (humans, vertebrates or potentially hazardous biological agents).

The SRC/IRB has carefully studied this project's **Research Plan/Project Summary** and all the required forms are included. My signature indicates approval of the **Research Plan/Project Summary** before the student begins experimentation.

\_\_\_\_\_  
SRC/IRB Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval (mm/dd/yy)  
(Must be prior to experimentation.)

OR

### b. Required for research conducted at all Regulated Research Institutions with no prior fair SRC/IRB approval.

This project was conducted at a regulated research institution (**not home or high school, etc.**), was reviewed and approved by the proper institutional board before experimentation and complies with the ISEF Rules. **Attach (1C) and any required institutional approvals (e.g. IACUC, IRB).**

\_\_\_\_\_  
SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Signature (mm/dd/yy)  
(May be after experimentation)

## 3. Final ISEF Affiliated Fair SRC Approval (Required for ALL Projects)

### SRC Approval After Experimentation and Before Competition at Regional/State/National Fair

I certify that this project adheres to the approved **Research Plan/Project Summary** and complies with all ISEF Rules.

\_\_\_\_\_  
Regional SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval (mm/dd/yy)

\_\_\_\_\_  
State/National SRC Chair's Printed Name  
(where applicable)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval (mm/dd/yy)

# Checklist for Adult Sponsor (1)

This completed form is required for ALL projects.

To be completed by the Adult Sponsor in collaboration with the student researcher(s):

Student's Name(s): \_\_\_\_\_

Project Title: \_\_\_\_\_

- I have reviewed the ISEF Rules and Guidelines, including the science fair ethics statement.
- I have reviewed the student's completed Student Checklist (1A) and Research Plan/Project Summary.
- I have worked with the student and we have discussed the possible risks involved in the project.
- The project involves one or more of the following and requires prior approval by an SRC, IRB, IACUC or IBC:  
 Humans  
 Vertebrate Animals  
 Potentially Hazardous Biological Agents  
 Microorganisms  
 rDNA  
 Tissues
- Items to be completed for **ALL PROJECTS**  
 Adult Sponsor Checklist (1)  
 Student Checklist (1A)  
 Regulated Research Institutional/Industrial Setting Form (1C) (when applicable; after completed experiment)  
 Continuation/Research Progression Form (7) (when applicable)  
 Research Plan/Project Summary  
 Approval Form (1B)

Additional forms required if the project includes the use of one or more of the following (check all that apply):

- Humans**, including student designed inventions/prototypes. (Requires prior approval by an Institutional Review Board (IRB); see full text of the rules.)
  - Human Participants Form (4) or appropriate Institutional IRB documentation
  - Sample of Informed Consent Form (when applicable and/or required by the IRB)
  - Qualified Scientist Form (2) (when applicable and/or required by the IRB)
- Vertebrate Animals** (Requires prior approval, see full text of the rules.)
  - Vertebrate Animal Form (5A) - for projects conducted in a school/home/field research site (SRC prior approval required)
  - Vertebrate Animal Form (5B) - for projects conducted at a Regulated Research Institution. (Institutional Animal Care and Use Committee (IACUC) approval required prior experimentation.)
  - Qualified Scientist Form (2) (Required for all vertebrate animal projects at a regulated research site or when applicable)
- Potentially Hazardous Biological Agents** (Requires prior approval by SRC, IACUC or IBC, see full text of the rules.)
  - Potentially Hazardous Biological Agents Risk Assessment Form (6A)
  - Human and Vertebrate Animal Tissue Form (6B) - to be completed in addition to Form 6A when project involves the use of fresh or frozen tissue, primary cell cultures, blood, blood products and body fluids.
  - Qualified Scientist Form (2) (when applicable)
  - The following are exempt from prior review but require a Risk Assessment Form 3: projects involving protists, archae and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, projects using color change coliform water test kits, microbial fuel cells, and projects involving decomposing vertebrate organisms.
- Hazardous Chemicals, Activities and Devices** (No SRC prior approval required, see full text of the rules.)
  - Risk Assessment Form (3)
  - Qualified Scientist Form (2) (required for projects involving DEA-controlled substances or when applicable)
- Other**
  - Risk Assessment Form (3)
- I attest to the information checked above and that I have read and agree to abide by the science fair ethics statement.

\_\_\_\_\_  
Adult Sponsor's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Review (mm/dd/yy)

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

## Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed **AFTER** experimentation by the adult supervising the student research either virtually or on site, conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

### To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

Research was supported at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher?  Yes  No
  - a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.

b. If yes, complete questions 2–5.

2. Is the student's research project a subset of your ongoing research or work?  Yes  No  
Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site. If this project is under a grant and needs to be acknowledged, please list the grant statement here.

3. Describe the independence and creativity with which the student:
  - a. developed the hypotheses or engineering goals for the research project

b. designed the methodology for his/her research project

c. analyzed and interpreted data

(Continued on next page)

# Regulated Research Institutional/Industrial Setting Form (1C) Continued

Student's Name(s) \_\_\_\_\_

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

5. Did the student(s) work on the project as part of a group?  Yes  No  
Were there other high school students present? If yes, please list the student names and describe how their work was related or different from the work of this project.

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable. I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

\_\_\_\_\_  
Supervising Adult's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Institution

\_\_\_\_\_  
Date Signed (must be after experimentation) (mm/dd/yy)

\_\_\_\_\_  
Address

\_\_\_\_\_  
Email/Phone

## Qualified Scientist Form (2)

May be required for research involving human participants, vertebrate animals, potentially hazardous biological agents, and hazardous substances and devices. Must be completed and signed before the start of student experimentation.

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

### To be completed by the Qualified Scientist:

Scientist Name: \_\_\_\_\_

Educational Background: \_\_\_\_\_ Degree(s): \_\_\_\_\_

Experience/Training as relates to the student's area of research:

Position/Institution: \_\_\_\_\_

Email/Phone: \_\_\_\_\_

1. Have you reviewed the ISEF rules relevant to this project and the science fair ethics statement relevant to this project?  Yes  No
2. Will any of the following be used?
  - a. Human participants  Yes  No
  - b. Vertebrate animals  Yes  No
  - c. Potentially hazardous biological agents (microorganisms, rDNA and tissues, including blood and blood products)  Yes  No
  - d. Hazardous substances and devices  Yes  No
3. Will this study be a sub-set of a larger study?  Yes  No
4. Will you directly supervise the student?  Yes  No
  - a. If no, who will directly supervise and serve as the Designated Supervisor?
  - b. Experience/Training of the Designated Supervisor: \_\_\_\_\_

### To be completed by the Qualified Scientist:

I certify that I have reviewed and approved the Research Plan/Project Summary prior to the start of the experimentation. If the student or Designated Supervisor is not trained in the necessary procedures, I will ensure her/his training. I will provide advice and supervision during the research. I have a working knowledge of the techniques to be used by the student in the Research Plan/Project Summary. I understand that a Designated Supervisor is required when the student is not conducting experimentation under my direct supervision.

\_\_\_\_\_  
Qualified Scientist's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval (mm/dd/yy)

### To be completed by the Designated Supervisor when the Qualified Scientist cannot directly supervise.

I certify that I have reviewed the Research Plan/Project Summary and have been trained in the techniques to be used by this student, and I will provide direct supervision.

\_\_\_\_\_  
Designated Supervisor's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval (mm/dd/yy)

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

## Risk Assessment Form (3)

**Must be completed before experimentation; recommended for all projects. May be required for projects involving Human Participants, Hazardous Chemicals, Materials or Devices or Potentially Hazardous Biological Agents.**

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

**To be completed by the Student Researcher(s) in collaboration with Designated Supervisor/Qualified Scientist:** (All questions must be answered; additional page(s) may be attached.)

1. Identify and assess the risks and hazards involved in this project.
2. a) List all hazardous chemicals, activities or devices to be used; b) identify and list all microorganisms to be used that are exempt from pre-approval (see Potentially Hazardous Biological Agent rules).
3. Describe the safety precautions and procedures that will be used to reduce the risks.
4. Describe the disposal procedures that will be used (when applicable).
5. List the source(s) of safety information.

**To be completed and signed by the Designated Supervisor (or Qualified Scientist, when applicable):**

I agree with the risk assessment and safety precautions and procedures described above. I certify that I have reviewed the Research Plan/Project Summary and the International Rules, including the science fair ethics statement and will provide direct supervision.

\_\_\_\_\_  
Designated Supervisor's Printed Name                      Signature                      Date of Review (mm/dd/yy)

\_\_\_\_\_  
Experience/Training as relates to the student's area of research

\_\_\_\_\_  
Position/Institution

\_\_\_\_\_  
Phone or email contact information



# Human Participants Form (4)

**Required for all research involving human participants not at a Regulated Research Institution.  
If at a Regulated Research Institution, use institutional approval forms for documentation  
of prior review and approval. (IRB approval required before recruitment or data collection.)**

Student's Name(s)	Title of Project
Adult Sponsor	Phone/Email
<b>MUST BE COMPLETED BY STUDENT RESEARCHER(S) IN COLLABORATION WITH THE ADULT SPONSOR/DESIGNATED SUPERVISOR/QUALIFIED SCIENTIST:</b>	
1. <input type="checkbox"/> I have submitted my Research Plan/Project Summary which addresses ALL areas indicated in the Human Participants Section of the Research Plan/Project Summary Instructions.	
2. <input type="checkbox"/> I have attached any surveys or questionnaires I will be using in my project or other documents provided to human participants. <input type="checkbox"/> Any published instrument(s) used was /were legally obtained.	
3. <input type="checkbox"/> I have attached an informed consent that I would use if required by the IRB.	
4. <input type="checkbox"/> Yes <input type="checkbox"/> No Are you working with a Qualified Scientist? If yes, attach the Qualified Scientist Form 2.	

## BELOW – IRB USE ONLY

<b>MUST BE COMPLETED BY INSTITUTIONAL REVIEW BOARD (IRB) AFTER REVIEW OF THE RESEARCH PLAN. ALL QUESTIONS MUST BE ANSWERED FOR THE APPROVAL TO BE VALID. (IF NOT APPROVED, RETURN PAPERWORK TO THE STUDENT WITH INSTRUCTIONS FOR MODIFICATIONS.)</b>	
<input type="checkbox"/> Approved with Full Committee Review (3 signatures required) and the following conditions: <b>(All 6 must be answered)</b>	
1. Risk Level (check one) :	<input type="checkbox"/> Minimal Risk <input type="checkbox"/> More than Minimal Risk <span style="margin-left: 300px;">(a risk assessment form 3 is required).</span>
2. Qualified Scientist (QS) Required (Form 2):	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Risk Assessment Required (Form 3):	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Written Minor Assent required for minor participants:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable (No minors in this study)
5. Written Parental Permission required for minor participants:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable (No minors in this study)
6. Written Informed Consent required for participants 18 years or older:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable (No participants 18 yrs or older in this study)
<b>IRB SIGNATURES (All 3 signatures required)</b> None of these individuals may be the adult sponsor, designated supervisor, qualified scientist or related to (e.g., mother, father of) the student (conflict of interest).	
<b>I attest that I have reviewed the student's project, that the checkboxes above have been completed to indicate the IRB determination and that I agree with the decisions above.</b>	
<b>Medical or Mental Health Professional (a psychologist, medical doctor, licensed social worker, licensed clinical professional counselor, physician's assistant, doctor of pharmacy, or registered nurse) with expertise related to this project.</b>	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
<b>Educator</b>	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
<b>School Administrator</b>	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)

# Vertebrate Animal Form (5A)

Required for all research involving vertebrate animals that is conducted in a school/home/field research site.  
(SRC approval required before experimentation.)

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

## To be completed by Student Researcher:

1. Common name (or Genus, species) and number of animals used.
2. Describe completely the housing and husbandry to be provided. Include the cage/pen size, number of animals per cage, environment, bedding, type of food, frequency of food and water, how often animal is observed, etc. Add an additional page as necessary.
3. What will happen to the animals after experimentation?
4. Attach a copy of wildlife licenses or approval forms, as applicable
5. The ISEF Vertebrate Animal Rules require that any death, illness or unexpected weight loss be investigated and documented by a letter from the qualified scientist, designated supervisor or a veterinarian. If applicable, attach this letter with this form when submitting your paperwork to the SRC prior to competition.

## To be completed by Local or Affiliate Fair Scientific Review Committee (SRC) BEFORE experimentation.

### Level of Supervision Required for agricultural, behavioral or nutritional studies (select one):

- Designated Supervisor REQUIRED. Please have applicable person sign below.
- Veterinarian and Designated Supervisor REQUIRED. Please have applicable persons sign below.
- Veterinarian, Designated Supervisor and Qualified Scientist REQUIRED. Please have applicable persons sign below and have the Qualified Scientist complete Form (2).

The SRC has carefully reviewed this study and finds it is an appropriate study that may be conducted in a non-regulated research site.

### Local or Affiliate Fair SRC Pre-Approval Signature:

SRC Chair Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date of Approval (must be prior to experimentation) (mm/dd/yy) \_\_\_\_\_

### To be completed by Veterinarian:

- I have reviewed this research and animal husbandry with the student before the start of experimentation.
- I have approved the use and dosages of prescription drugs and/or nutritional supplements.
- I will provide veterinary medical and nursing care in case of illness or emergency. (Fees may apply.)

Printed Name \_\_\_\_\_

Email/Phone \_\_\_\_\_

Signature \_\_\_\_\_

Date of Approval (mm/dd/yy) \_\_\_\_\_

### To be completed by Designated Supervisor or Qualified Scientist when applicable:

- I have reviewed this research and animal husbandry with the student before the start of experimentation and I accept primary responsibility for the care and handling of the animals in this project.
- I will directly supervise the experiment.

Printed Name \_\_\_\_\_

Email/Phone \_\_\_\_\_

Signature \_\_\_\_\_

Date of Approval (mm/dd/yy) \_\_\_\_\_

# Vertebrate Animal Form (5B)

Required for all research involving vertebrate animals that is conducted in at a Regulated Research Institution. (IACUC approval required before experimentation. Form must be completed and signed after experimentation.)

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

Title and Protocol Number of IACUC Approved Project \_\_\_\_\_

## To be completed by Qualified Scientist or Principal Investigator:

1. Species of animals used: \_\_\_\_\_ Number of animals used: \_\_\_\_\_

2. Describe, in detail, the role of the student in this project: animal procedures and related equipment that were involved, oversight provided and safety precautions employed. (Attach extra pages if necessary.)

3. Was there any weight loss or death of any animal? If yes, attach a letter obtained from the qualified scientist, designated supervisor or a veterinarian documenting the situation and the results of the investigation.

4. Did the student's project also involve the use of tissues?

No

Yes; complete Forms 6A and 6B

5. What laboratory training, including dates, was provided to the student?

**6. Attach a copy of the Regulated Research Institution IACUC Approval.** A letter from the Qualified Scientist or Principal Investigator is not sufficient.

### Qualified Scientist/Principal Investigator

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date (mm/dd/yy) \_\_\_\_\_

# Potentially Hazardous Biological Agents Risk Assessment Form (6A)

Required for research involving microorganisms, rDNA, fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids. SRC/IACUC/IBC approval required before experimentation.

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

**To be completed by the QUALIFIED SCIENTIST/DESIGNATED SUPERVISOR in collaboration with the student researcher(s). All questions are applicable and must be answered; additional page(s) may be attached.**

## SECTION 1: PROJECT ASSESSMENT

1. Identify potentially hazardous biological agents to be used in this experiment. Include the source, quantity and the biosafety level risk group of each microorganism.
2. Describe the site of experimentation including the level of biological containment.
3. Describe the procedures that will be used to minimize risk (personal protective equipment, hood type, etc.).
4. What final biosafety level do you recommend for this project given the risk assessment you conducted?
5. Describe the method of disposal of all cultured materials and other potentially hazardous biological agents.

## SECTION 2: TRAINING

1. What training will the student receive for this project?
2. Experience/training of Designated Supervisor as it relates to the student's area of research (if applicable).

## SECTION 3: For ALL CELL LINES, MICROORGANISMS AND TISSUES – To be completed by the QUALIFIED SCIENTIST or DESIGNATED SUPERVISOR - Check the appropriate box(es) below:

- Experimentation on the microorganisms/cell lines/tissues to be used in this study will NOT be conducted at a Regulated Research Institution, but will be conducted at a (check one) \_\_\_BSL-1 or \_\_\_BSL-2 laboratory (include a copy of the checklist for BSL-2). [This study has been reviewed by the local SRC and the procedures have been approved prior to experimentation.]
- Experimentation on the microorganisms/cell lines/tissues to be used in this study will be conducted at a Regulated Research Institution and was approved by the appropriate institutional board prior to experimentation; institutional approval forms are attached.  
Origin of cell lines: \_\_\_\_\_ Date of IACUC/IBC approval \_\_\_\_\_
- Experimentation on the microorganisms/cell lines/tissues to be used in this study will be conducted at a Regulated Research Institution, which does not require pre-approval for this type of study. The SRC has seen and approved the research plan and supporting documentation and acknowledges the accuracy of the responses above.

## CERTIFICATION – To be SIGNED by the QUALIFIED SCIENTIST or DESIGNATED SUPERVISOR

The QS/DS has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided above. This study has been approved as a (check one)  BSL-1/  BSL-2 study, and will be conducted in an appropriate laboratory.

\_\_\_\_\_  
QS/DS Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of review (mm/dd/yy)

## SECTION 4: CERTIFICATION – To be completed by the LOCAL or AFFILIATED FAIR SRC

The SRC has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided.

\_\_\_\_\_  
SRC Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of review (mm/dd/yy)

## Human and Vertebrate Animal Tissue Form (6B)

Required for research involving fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids. If the research involves living organisms please ensure that the proper human or animal forms are completed. **All projects using any tissue listed above must also complete Form 6A.**

Student's Name(s) \_\_\_\_\_

Title of Project \_\_\_\_\_

### To be completed by Student Researcher(s):

1. What vertebrate animal tissue will be used in this study? Check all that apply.
  - Fresh or frozen tissue sample
  - Fresh organ or other body part
  - Blood
  - Body fluids
  - Primary cell/tissue cultures
  - Human or other primate established cell lines
2. Where will the above tissue(s) be obtained? If using an established cell line include source and catalog number.
3. If the tissue will be obtained from a vertebrate animal study conducted at a research institution attach a copy of the IACUC certification with the name of the research institution, the title of the study, the IACUC approval number and a copy of IACUC approval.

### To be completed by the Qualified Scientist or Designated Supervisor:

- I verify that the student will work solely with organs, tissues, cultures or cells that will be supplied to him/her by myself or qualified personnel from the laboratory; and that if vertebrate animals were euthanized they were euthanized for a purpose other than the student's research.

#### AND/OR

- I certify that the blood, blood products, tissues or body fluids in this project will be handled in accordance with the standards and guidance set forth in U.S. Occupational Safety and Health Act, 29CFR, Subpart Z, 1910.1030 - Blood Borne Pathogens.

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date of Approval (mm/dd/yy)  
(Must be prior to experimentation.) \_\_\_\_\_

Title \_\_\_\_\_

Phone/Email \_\_\_\_\_

Institution \_\_\_\_\_

## Continuation/Research Progression Projects Form (7)

**Required for projects that are a continuation/progression in the same field of study as a previous project. This form must be accompanied by the previous year's abstract and Research Plan/Project Summary.**

Student's Name(s) \_\_\_\_\_

**To be completed by Student Researcher:** List all components of the current project that make it new and different from previous research. The information must be on the form; use an additional form for previous year and earlier projects.

Components	Current Research Project	Previous Research Project: Year: _____
1. Title		
2. Change in goal/ purpose/objective		
3. Changes in methodology		
4. Variable studied		
5. Additional changes		

Attached are:

Abstract and Research Plan/Project Summary, Year \_\_\_\_\_

I hereby certify that the above information is correct and that the current year Abstract & Certification and project display board properly reflect work done only in the current year.

\_\_\_\_\_  
Student's Printed Name(s)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Signature (mm/dd/yy)

# Regeneron ISEF 2023 Display Guidelines

Regeneron ISEF 2023 will be an in-person event in which finalists will compete in-person in Dallas, Texas at the Kay Bailey Hutchison Convention Center from May 13-19, 2023. However, **ALL finalists** are still required to complete a virtual display within ProjectBoard to support the judging process and to share their projects with the global audience of Regeneron ISEF. Finalists are also required to provide a physical display board for the finalist exhibit hall in Dallas. All displays, virtual and in-person, will undergo Display & Safety (D&S) inspections. [The International Rules & Guidelines](#) remain the guide of what is eligible and allowable; all written materials are to be provided in English.

We strongly encourage finalists to use the same core materials in both displays to avoid duplication of effort and to support the D&S review. Where possible, infractions identified within the virtual display should be corrected online and within the physical display board prior to printing or construction of the final physical display.

## ProjectBoard – Virtual Display

### I. Regeneron ISEF Paperwork as submitted in the Finalist Questionnaire

- a. This process remains the same as prior years and will be reviewed by the Scientific Review Committee (SRC) to confirm eligibility for competition.
- b. On display for the judges will be:
  - i. **Official Abstract** (250 words)
  - ii. **Regulated Research Institutional Setting Form 1C** (if applicable)
  - iii. **Continuation Form 7** (if applicable)
- c. Appendix I provides an overview of Regeneron ISEF paperwork.

### II. Project Presentation

- a. The project presentation is the primary vehicle to present the content of your project and replaces the project poster for your virtual display. Appendix II provides complete instructions of the format requirements and recommendations.
- b. There are three suggested templates based on project type:
  - i. Science Projects,
  - ii. Engineering Projects and
  - iii. Mathematics/Computer Science Projects.
- c. Project presentations will be required to be submitted by a set deadline and will then be locked for Display & Safety inspection prior to competition.

### III. A Quad Chart

- a. The quad chart summarizes the project in a single page for a quick overview by the judges.
- b. This representation of your project is intended to be only a summary and to be visual in nature.
- c. Appendix III provides complete instructions with format requirements and recommendations as well as sample templates.

### IV. Project Video (2-minute maximum)

- a. This video summarizes the project at a high level and will be used primarily for the public display of projects and should have the layman as the core audience.
- b. While judges will be given access to all materials submitted, it is advised that the video be a supplement to the project presentation slides.
- c. This video should feature the finalist(s) prominently on screen.

## V. Additional Notes

- a. Active links are not permitted anywhere on the virtual display
- b. Do NOT include your research paper or notebook images as part of your virtual display.
- c. An optional 1-minute demo video is allowed, if applicable to your project. Include this as the second item in the same section as your project video.

# In-Person Physical Display

## Display & Safety

Please review the full text of the Display & Safety rules in the International Rules & Guidelines to ensure compliance with the display regulations including:

- Maximum size of the project
- Forms required to be displayed
- Photograph/Image Display Requirements and
- Items/materials not allowed on display or at your project booth.

The virtual display D&S inspection will occur in mid April/early May and it is our intent to conduct an inspection of all virtual displays by no later than May 4, 2023. This should allow all finalists to make any updates and adjustments to their physical display board to address any infractions that were identified on the virtual display.

The two formats are different and they do not need to be identical, but where a Finalist can use the same elements in both displays, it is encouraged.

**The following information are suggested guidelines for your physical display taken from**

<https://guides.nyu.edu/posters>.

- Important information should be readable from about 10 feet away. The suggested smallest font on your physical poster is 18 pt.
- Title is short and draws interest.
- Word count of about 300 to 800 words.
- Text is clear and to the point.
- Use of bullets, numbering, and headlines make it easy to read.
- Effective use of graphics, color, and fonts.



# Appendix I. Submission and Review Process

## Regeneron ISEF Paperwork

All finalists must submit a finalist questionnaire that includes all the ISEF paperwork required for their project. Minimally, all projects must have [Checklist Forms 1](#), [Student Checklist Form 1A](#), Research Plan, and [Approval Form 1B](#). The forms that are to be made available at your project booth for the judges to review are the Official Abstract, and if applicable, the [Regulated Research Setting Form 1C](#) and/or the [Continuation Form 7](#). These forms will be automatically passed over to ProjectBoard from Finalist Questionnaire. You will not be able to upload them directly on ProjectBoard.

- **Official Abstract** approved by SRC (250-word format)  
*The abstract summarizes the information contained in the rest of this document. An abstract includes: (a) the research question or engineering problem, (b) procedures used, (c) data, (d) interpretation and (e) conclusions. It also may include any possible research applications. It should be limited to these essential elements. Consider using the summary created by the Quad chart to inform this narrative.*
- **Regulated Research Institutional Setting Form 1C** (if applicable)  
*This form is required for work done at a Regulated Research Institution or Industrial Setting and is to be completed after experimentation by the adult supervising. In 2022-2023, when many Regulated Research Institution laboratories and facilities are closed to student researchers, the ISEF SRC has suggested that a Form 1C be used when support from mentors and those in a laboratory setting has been provided, even when the student received this support remotely. This can also include situations in which a high school teacher is supporting laboratory activities on behalf of a remote student to help clarify the student's involvement in each step of the project.*
- **Continuation Form 7** (if applicable)  
*Any project that is a continuation of a previous year's work must document that additional research is new and different on Continuation Form 7.*

## Display & Safety

Display & Safety inspections will include a review of all submitted materials and enforcement of the display guidelines as published in the [International Rules and Guidelines](#). This includes meeting all of the format and size requirements, **providing appropriate credits for photographs, graphs and other visuals** and in having any permissions of individuals depicted in any project materials (on the board, slides or in the video) available.

## Calendar of Processes

- All finalists must adhere to the deadlines below to compete at Regeneron ISEF 2023. Deadline to submit Finalist questionnaire: **12 days after your fair ends** and finalists are announced
- Final deadline for abstract rewrites by all finalists: **April 19**
- Final submission of presentation materials on ProjectBoard: **Rolling Basis**
- SRC rolling phone/video conference Interviews: **Completed by May 3**
- Display & Safety inspections of presentation materials: **Completed by May 4**

## Appendix II. Project Presentation Instructions

You may prepare your Project Presentation for Regeneron ISEF 2023 using any software tools that you desire, but the final document submitted for display to the judges and the public must satisfy the following requirements.

### Format Requirements

1. The Project Presentation must be uploaded to ProjectBoard as images (JPG, PNG or similar). Each page will need to be a separate image and you are limited to **no more than 12 pages**. *Tip: Powerpoint or Adobe Acrobat pages can be easily converted to separate images when content and formatting has been finalized.*
2. The pages should be created following the templates provided below. The page should be created in Landscape mode so that the entire page is visible at the same time.
3. Your pages must be without animation or active hyperlinks.
4. The page background color must be a light color and should not affect readability.
5. Text color must be predominantly dark to support readability.
6. All text should be easily readable when viewing the entire page at once. The smallest allowable font size of body text is 14 pt. and an 18 pt. font is recommended. *Exception:* You may use a smaller font size, down to 10 pt., for figure captions or photo credits.
7. All Project Presentation elements must conform to all [Display & Safety rules](#) as if placed on a physical poster for display to judges and the public. Passing a Display & Safety inspection will be required to compete. (Please see the highlight of Display & Safety Rules below.)

### Format Recommendations:

1. Do not use non-standard fonts or colors to “stand out from the crowd” or to be entertaining. It is recommended that you use a font such as Arial, Calibri, Helvetica or Century Gothic.
2. Page titles should all be the same size. That size should be larger than headings within each page. In turn, headings should be larger than body text.
3. Avoid long expository paragraphs. State your points succinctly.
4. Use bullets to set out individual points of interest. Use numbered lists when the ordering of points of interest is important (*e.g.*, instructions to be followed in order, or items needing a reference anchor for citation elsewhere in your Presentation).
5. All body text should adopt a common font style and size. Similarly, all heading text should adopt a common font style and size. There is no recommendation for the relation between body and heading styles.

## Display & Safety Rules Highlight for Project Presentation Materials

(Please see [Display & Safety rules](#) for full text.)

### Photograph/Image Display Requirements

- 1) Any photograph/visual image/chart/table/student-created logo and/or graph is allowed if:
  - a) It is not deemed offensive or inappropriate (which includes images/photographs showing invertebrate or vertebrate animals/humans in surgical, necrotizing or dissection situations) by the Scientific Review Committee, the Display & Safety Committee, or Society for Science
  - b) It has a credit line of origin (“Photograph taken by...” or “Image taken from...” or “Graph/Chart/Table taken from...”). If all images, etc. displayed were created by the finalist or are from the same source, one credit line prominently and vertically displayed on the backboard/poster or tabletop is sufficient.
    - **All images MUST BE properly cited.** This includes student-created logos, background graphics, photographs and/or visual depictions of the finalist or photographs and/or visual depictions of others.
    - All visual depictions of others require a signed photo/video release form is in a notebook or logbook at the project booth. These signed release forms must be available upon request during the set-up and inspection process but may not be displayed.
  - c) Sample release text: “I consent to the use of visual images (photos, videos, etc.) involving my participation/my child’s participation in this research.”
- 2) Finalists using any presentation or demonstration outside of a project board must be prepared to show the entire presentation to the Display & Safety Inspectors before the project is approved. All aforementioned rules apply to this presentation and the presentation may not be altered in any way after the final Display & Safety inspection. Examples of presentations that require approval include, but are not limited to PowerPoint, Prezi, Keynote, software program/simulation and other images and/or graphics displayed on a computer screen or other non-print delivery method.

### NOT ALLOWED in your Presentation Materials

- 1) Any information on the project display or items that are self-promotions or external endorsements are not allowed in the project booth.
  - a) The use of commercial logos including known brands, institutional crests or trademarks, flags unless integral to the project and approved by the SRC via inclusion in the Official Abstract and Certification.
  - b) Any reference to an institution or mentor that supported the finalist’s research except as provided in an acknowledgement section of the poster and within official ISEF paperwork, most notably Form 1C.
  - c) Any reference to patent status of the project.
  - d) Any items intended for distribution such as disks, CDs, flash drives, brochures, booklets, endorsements, giveaway items, business cards, printed materials or food items designed to be distributed to judges or the public.
- 2) Any awards or medals, except for past or present ISEF medals that may be worn by the finalist.
- 3) Postal addresses, World Wide Web, email and/or social media addresses, QR codes, telephone and/or fax numbers of a project or finalist. Note: The only personal information that is permissible to include on the display is the finalist name, school, city, state, country, age and grade.
- 4) Active Internet or email connections as part of displaying or operating the project at ISEF.
- 5) Any changes, modifications, or additions to projects including any attempt to uncover, replenish or return removed language or items after the approval by the Display & Safety Committee and the Scientific Review Committee has been received is prohibited.

## Project Presentation Templates

Choose one of the following templates to create your presentation. Do not include information not specified in this template. If you are submitting a continuation project, include only information related to this year's research unless otherwise directed in the instructions below. You may include graphical elements as they would explain or illustrate your work and can be contained within the overall page limits.

Each of the required sections in each template must start on its own page and be in the order provided. Titles per section are provided as recommended titles, but alternate titles may be used. Each section may extend beyond one page as long as the total does not exceed 12 maximum pages.

TEMPLATE I: Science Projects

TEMPLATE II: Engineering Projects

TEMPLATE III: Mathematics/Computer Science Projects

# Project Presentation Template: Science Project

## 1. Project ID and Title

- The following should be included:
  - Project ID. This ID will be provided by Society for Science upon submission of ISEF paperwork.
  - Project Title
  - Finalist Name (s)
  - School(s)
  - City, State, Province, Country

## 2. INTRODUCTION - What is your research question?

- Explain what is known or has already been done in your research area. Include a brief review of relevant literature. If this is a continuation project, a brief summary of your prior research is appropriate here. Be sure to distinguish your previous work from this year's project.
- What were you trying to find out? Include a description of your purpose, your research question, and/or your hypothesis.

## 3. METHODS - Explain your methodology and procedures for carrying out your project in detail.

- What did you do? What data did you collect and how did you collect that data? Discuss your control group and the variables you tested.
- DO NOT include a list of materials.

## 4. RESULTS - What were the result(s) of your project?

- Include tables and figures which illustrate your data.
- Include relevant statistical analysis of the data.

## 5. DISCUSSION - What is your interpretation of these results?

- What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
- Discuss possible errors. Did any questions or problems arise that you were not expecting? How did the data vary between repeated observations of similar events? How were results affected by uncontrolled events?

## 6. CONCLUSIONS - What conclusions did you reach?

- What do these results mean in the context of the literature review and other work being done in your research area? How do the results address your research question? Do your results support your hypothesis?
- What application(s) do you see for your work?

## 7. REFERENCES/ACKNOWLEDGEMENTS

- This section should not exceed one page. Limit your list to the most important references.
- List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- It is permissible to include a short statement acknowledging support from supervisors, research groups and others that had a direct role in your project.

# Project Presentation Template: Engineering Project

## 1. Project ID and Title

- The following should be included:
  - Project ID. This ID will be provided by Society for Science upon submission of ISEF paperwork.
  - Project Title
  - Finalist Name (s)
  - School(s)
  - City, State, Province, Country

## 2. INTRODUCTION - What is your engineering problem and goal?

- What problem were you trying to solve? Include a description of your engineering goal.
- Explain what is known or has already been done to solve this problem, including work on which you may build. You may include a brief review of relevant literature.
- If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

## 3. METHODS - Explain your methods and procedures for building your design.

- What did you do? How did you design and produce your prototype? If there is a physical prototype, you may want to include pictures or designs of the prototype.
- If you tested the prototype, what were your testing procedures? What data did you collect and how did you collect that data?
- DO NOT include a separate list of materials.

## 4. RESULTS - What were the result(s) of your project?

- How did your prototype meet your engineering goal?
- If you tested the prototype, provide a summary of testing data tables and figures that illustrate your results.
- Include relevant statistical analysis of the data.

## 5. DISCUSSION - What is your interpretation of these results?

- What do these results mean? You may compare your results with theories, published data, commonly held beliefs, and/or expected results.
- Did any questions or problems arise that you were not expecting? Were these problems caused by uncontrolled events? How did you address these?
- How is your prototype an improvement or advancement over what is currently available?

## 6. CONCLUSIONS - What conclusions did you reach?

- Did your project turn out as you expected?
- What application(s) do you see for your work?

## 7. REFERENCES /ACKNOWLEDGEMENTS

- This section should not exceed one page. Limit your list to the most important references.
- List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- It is permissible to include a short statement acknowledging support from supervisors, research groups and others that had a direct role in your project.

# Project Presentation Template: Mathematics/Computer Science

## 1. Project ID and Title

- The following should be included:
  - Project ID. This ID will be provided by Society for Science upon submission of ISEF paperwork.
  - Project Title
  - Finalist Name (s)
  - School(s)
  - City, State, Province, Country

## 2. INTRODUCTION - What is your research question?

- Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
- If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

## 3. FRAMEWORK - Notation and framework.

- Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
- Define relevant terms and explain prior/background results. (Novel concepts developed as part of your project can be presented here or in Section 4, as appropriate.)

## 4. FINDINGS - Present your findings and supporting arguments.

- What did you discover and/or prove? Describe your result(s) in detail. If possible, provide both formal and intuitive/verbal explanations of each major finding.
- Describe your methods in general terms. Then:
  - Present rigorous proofs of the theory results – or, if the arguments are long, give sketches of the proofs that explain the main ideas.
  - For numerical/statistical results, include tables and figures that illustrate your data. Include relevant statistical analysis. Were any of your results statistically significant? How do you know this?

## 5. CONCLUSIONS - What is your assessment of your findings?

- How do the results address your research question? And how have you advanced our understanding relative to what was already known?
- Discuss possible limitations. Did any questions or problems arise that you were not expecting? What challenges do you foresee in extending your results further?
- What application(s), if any, do you see for your work?

## 6. REFERENCES /ACKNOWLEDGEMENTS

- This section should not exceed one page. Limit your list to the most important references.
- List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- It is permissible to include a short statement acknowledging support from supervisors, research groups and others that had a direct role in your project.

## Appendix III. Quad Chart Instructions

A “quad chart” is a single page divided into four quadrants providing a high-level summary of the project. It is intended to be bulleted information that a judge could review at a quick glance and then proceed to the Project presentation for more details. Follow the model below that corresponds to the Project Presentation template you selected.

1. The page should be created so that **the entire page is visible at the same time**. The page should be created in Landscape mode.
2. The page will have to upload as an image to ProjectBoard.
3. The page background color should be a light color and text color predominantly dark to support readability.
4. The minimum allowable font size is 14 pt. and larger fonts are encouraged for readability. *Exception:* You may use a smaller font size, down to 10 pt., for figure captions or photo credits.
5. Text should be in list or bulleted form and as brief as possible. This chart is intended as a high-level summary that can be read at-a-glance.
6. All four quadrants of your Quad Chart should each be the same size with a single border line delimiting each, as in the examples below.
7. The Title section should be only tall enough to include the required elements which are the same as the abstract header. The project title should be at the largest header size of the document for easy identification of the project. (See section on Quad Chart Title).
8. The Quad Chart should include all appropriate photo credits, should not include a bibliography, references, or acknowledgments and must adhere to all Display & Safety rules.

Approximate examples of the format of a Quad Chart are listed below. Additional examples and a template will be posted to the Society for Science website.

<b>Science Project Quad Chart</b>		<b>Booth ID</b>	
<b>Author, School, City, State, Country</b>			
<b>Q1: Scientific Question</b>  <ul style="list-style-type: none"> <li>• Bullet 1</li> <li>• Bullet 2</li> <li>• Bullet 3</li> </ul> <div style="border: 1px solid black; width: 100px; height: 50px; margin: 10px auto; text-align: center; padding: 2px;">Image</div> <div style="text-align: right; margin-top: 5px;">credit</div>	<b>Q3: Data Analysis &amp; Results</b>  <ul style="list-style-type: none"> <li>• Bullet 1</li> <li>• Bullet 2</li> </ul> <div style="border: 1px solid black; width: 150px; height: 50px; margin: 10px auto; text-align: center; padding: 2px;">Data Chart</div> <div style="text-align: right; margin-top: 5px;">credit</div>		
<b>Q2: Methodology</b>  <div style="border: 1px solid black; width: 100px; height: 50px; margin: 10px auto; text-align: center; padding: 2px;">Image</div> <div style="margin-left: 20px; margin-top: 5px;"> <ul style="list-style-type: none"> <li>• Bullet 1</li> <li>• Bullet 2</li> <li>• Bullet 3</li> <li>• Bullet 4</li> </ul> </div> <div style="margin-top: 10px;">credit</div>	<b>Q4: Interpretation &amp; Conclusions</b>  <ul style="list-style-type: none"> <li>• Bullet 1</li> <li>• Bullet 2</li> <li>• Bullet 3</li> </ul>		



<b>Engineering Project Quad Chart</b>		<b>Booth ID</b>
<b>Author, School, City, State, Country</b>		
Q1: Engineering Problem & Objectives	Q3: Data Analysis & Results	
Q2: Project Design	Q4: Interpretation & Conclusions	
<b>Math/Computer Science Project Quad Chart</b>		<b>Booth ID</b>
<b>Author, School, City, State, Country</b>		
Q1: Problem or Question	Q3: Findings	
Q2: Framework	Q4: Interpretation & Conclusions	

### Quad Chart Title:

- In the upper right-hand corner, list the Project ID.
- Line one is the title of your project.
- Line two is your name, school, city, state, country.

### Quadrant 1: Research Question/Engineering Objectives

- This should reflect material in #2 of the Project Presentation Template.
- Please state the research question or engineering problem being addressed.
- A leading core graphic or visual is encouraged, but not required.

### Quadrant 2: Methodology/Project Design

- This should reflect material in #3 of the Project Presentation Template.
- Please provide a succinct, bulleted summary of the methodology/project design.

### Quadrant 3: Data Analysis & Results

- This should reflect material in #4 and #5 of the Project Presentation Template.
- It is advised that this quadrant should primarily be a graphic representation of relevant data and results.
- Text should be kept to a minimum.

### Quadrant 4: Interpretation & Conclusions

- This should reflect material in #5 and # 6 of the Project Presentation Template.

## Appendix IV. Project Video Instructions

Record a video (maximum duration 2 minutes) explaining your project. The target audience for this video is members of the general public who will view the projects virtually during Regeneron ISEF and in the months following. While judges will have access to this video, it will not be the focus of their project review. This video must comply with all [Display & Safety Rules](#), particularly those involving logos, acknowledgements and properly crediting images/graphs/photos.

### What to include in your video:

**1. Introduce Yourself:** State your full name and your city/state/country. Rather than reciting your project title, consider explaining your project in a single sentence. The video should feature you presenting your project orally as if in front of your physical project board presenting to a judge or a member of the public.

**2. Explain Your Project:** Summarize your research into main points:

- a. What did you do?
- b. What did you find?
- c. What conclusions did you draw?

### To note:

- Videos can either be uploaded directly to ProjectBoard or you can embed a YouTube video. The YouTube link will need to be public, but it is not required that it be listed. It is recommended that the video be named the project short title. If uploading directly, videos must be less than 500 MB in size.
- We encourage you to be prominently displayed in the video (as opposed to having the video be prominently your slides).
- You can use any props or visuals you may have that are within the Display & Safety guidelines.
  - *Tip: This video is a summary statement about your project and the scientific or engineering design process you followed; it is not intended as an advertisement or sales pitch.*
- Do not include anyone in your video other than the student researchers of the project.

### Best Practices for Filming:

These videos will not be edited. To ensure your video is the best representation of your work, please keep these best practices in mind while filming:

- Please speak in English or provide English sub-titles.
- Film yourself in a well-lit and non-distracting environment so the viewer's focus stays on you and your work.
- For best results, film your video horizontally (landscape).
- Keep the camera still and in place during filming.
- Speak clearly and loudly enough that the recording is able to pick up every word you say.
- Avoid long pauses.
- Listen to your video after recording to ensure your voice is clear and audible, and that the video has not picked up too much background noise.
- Confirm the size of the video is less than 500 MB.